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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,727	10/25/2001	Bruce M. Drawert	CM04066H	2844

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EXAMINER	
NGUYEN, KHAI MINH	

ART UNIT	PAPER NUMBER
2687	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,727	DRAWERT, BRUCE M.	
	Examiner	Art Unit	
	Khai M Nguyen	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on *10/25/2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Krasner et al. (U.S. Pat-6665541).

Regarding claim 1, Krasner teaches a method for GPS-based regional time synchronization (col.3, lines 6-33) comprising:

receiving, at a master site (fig.1, elements 12, 14, 16), information from a GPS satellite that indicates a position of the satellite and a satellite time-of-day (fig.1, fig.3, col.1, lines 42-54, col.4, lines 24-38);

determining, using the position of the satellite and a pre-determined position of the master site (fig.3-4, col.5, lines 19-49), a time-of-day error value that represents a difference between the satellite time-of-day, adjusted for a transit time of the information (fig.3-4, col.5, lines 19-49, col.5, lines 55-65), and a corresponding master site time-of-day as reported by a master site, nanosecond-accurate clock (col.1, line 66 to col.2, line 19, col.10, line 59 to col.11, line 13); and

broadcasting to at least one slave site (fig.1, element 22) an indication of the time-of-day error value and the corresponding master site time-of-day (fig.5a-5b, fig.6a-6b, col.4, lines 24-51).

Regarding claim 2, Krasner teaches the method of claim 1 further comprising the step of repeating the steps of receiving (col.1, line 66 to col.2, line 19), determining, and broadcasting periodically (col.2, lines 48-65).

Regarding claim 3, Krasner teaches the method of claim 2 further comprising the step of repeating the steps of receiving (col.1, line 66 to col.2, line 19), determining, and broadcasting for each GPS satellite visible to the master site (fig.5a-5b, fig.6a-6b, col.7, line 34 to col.8, line 7).

Regarding claim 4, Krasner teaches the method of claim 1 further comprising the steps of:

receiving, over a period of time at the master site (col.2, lines 48-65), information from the GPS satellite that indicates positions of the satellite and satellite times-of-day (col.2, lines 39-65);

determining, from the information received over the period of time (col.2, lines 48-65), a rate-of-change of time-of-day error values (fig.2, col.9, lines 28-53); and

broadcasting to at least one slave site the rate-of-change of time-of-day error values (fig.2, col.9, lines 28-53).

Regarding claim 5, Krasner teaches the method of claim 1 wherein broadcasting comprises transmitting via an inter-site network (fig.1, col.1, lines 42-54).

Regarding claim 6, Krasner teaches a method for GPS-based regional time synchronization comprising:

receiving, at a slave site (fig.1, element 22) and at a time indicated by a slave site clock (col.3, lines 6-33), information from a GPS satellite that indicates a position of the satellite and a first satellite time-of-day (col.3, lines 6-33);

storing information that indicates the time indicated by the slave site clock and how the time indicated by the slave site clock differs from the satellite time-of-day (fig.1-2, col.1, lines 42-54, col.4, lines 24-38);

receiving, at the slave site, an indication of a time-of-day error value and a corresponding master site time-of-day (fig.2, col.4, lines 24-38), as reported by a master site (fig.1, elements 12, 14, 16), nanosecond-accurate clock , wherein the time-of-day

error value represents a difference between a second satellite time-of-day, adjusted for a transit time to the master site, and the corresponding master site time-of-day (col.1, line 66 to col.2, line 19, col.10, line 59 to col.11, line 13);

determining a clock correction value for the slave site using the stored information ,the time-of-day error value (fig.2, col.4, lines 24-38), and the corresponding master site time-of-day (col.4, lines 52-67); and

synchronizing a slave site clock with the master site using the clock correction value (col.11, lines 14-27).

Regarding claim 7, Krasner teaches the method of claim 6 wherein the step of storing comprises storing the time indicated by the slave site (fig.2) clock and the satellite time-of-day adjusted for a transit time to the slave site (fig.5a-5b, fig.6a-6b, col.7, line 34 to col.8, line 7).

Regarding claim 8, Krasner teaches the method of claim 7 wherein the step of determining comprises determining the clock correction value by using the difference between the time-of-day error value (fig.3, col.6, line 57 to col.7, line 33) and a slave error value equal to the difference between the time indicated by the slave site clock and the first satellite time-of-day adjusted for the transit time to the slave site (fig.6a-6b, col.8, lines 8-43).

Regarding claim 9, Krasner teaches the method of claim 8 wherein the master site time-of-day corresponds to the time indicated by the slave site clock (fig.1-2, col.10, lines 6-22).

Regarding claim 10, Krasner teaches the method of claim 6 further comprising the step of receiving, at the slave site from a master site (fig.6a-6b), a rate-of-change of time-of-day error value, wherein the rate-of-change of time-of-day error value is additionally used to determine the clock correction value (fig.5a-5b, fig.6a-6b, col.7, line 34 to col.8, line 7).

Regarding claim 11, Krasner teaches the method of claim 10 further comprising the steps of:

signaling to wireless units according to the synchronized slave site clock for use in location determination of the wireless unit (fig.1, col.1, lines 12-35).

Regarding claim 12, Krasner teaches a base site comprising:

a GPS receiver arranged to receive information from a GPS satellite that indicates a position of the satellite and a first satellite time-of-day (fig.2, col.3, lines 6-33);

a clock coupled to the GPS receiver that indicates a time at which the GPS receiver received the information (fig.2, col.6, lines 4-56);

a clock controller (fig.3), coupled to the GPS receiver and the clock (fig.2), arranged to store information that indicates the time indicated by the clock and how the time indicated by the clock differs from the first satellite time-of-day (fig.1-2, col1, lines 42-54, col.4, lines 24-38), further arranged to receive an indication of a time-of-day error value and a corresponding master site time-of-day (fig.2, col.4, lines 24-38), as reported by a master site (fig.1, elements 12, 14, 16), nanosecond-accurate clock (col.10, line 59 to col.11, line 13), wherein the time-of-day error value represents a difference between a second satellite time-of-day , adjusted for a transit time to the master site, and the corresponding master site time-of-day (col.1, line 66 to col.2, line 19, col.10, line 59 to col.11, line 13), further arranged to determine a clock correction value using the stored information, the time-of-day error value (fig.2, col.4, lines 124-38), and the corresponding master site time-of-day (col.4, lines 53-67), and further arranged to synchronize the clock with the master site, nanosecond-accurate clock using the clock correction value (col.11, lines 14-27).

Regarding claim 13, Krasner teaches the base site of claim 12 wherein the clock comprises a quartz oscillator (col.9, lines 32-39).

Regarding claim 14, Krasner teaches the base site of claim 12 wherein the clock controller stores the time indicated by the clock and the first satellite time-of-day adjusted for a transit time to the base site (fig.3, col.6, line 56 to col.7, line33).

Regarding claim 15, Krasner teaches the base site of claim 14 wherein the clock controller determines the clock correction value by using the difference between the time-of-day error value (fig.3, col.6, line 57 to col.7, line 33) and a base site error value equal to the difference between the time indicated by the clock and the first satellite time-of-day adjusted for the transit time to the slave site (fig.6a-6b, col.8, lines 8-43).

Regarding claim 16, Krasner teaches the base site of claim 15 wherein the master site time-of-day corresponds to the time indicated by the clock (fig.1-2, col.10, line 6-22).

Regarding claim 17, Krasner teaches the base site of claim 12 wherein the clock controller is further arranged to receive a rate-of-change of time-of-day error value,

wherein the rate-of-change of time-of-day error value is additionally used to determine the clock correction value (fig.5a-5b,fig.6a-6b, col.7, line 34 to col.8, line 7).

Regarding claim 18, Krasner teaches the base site of claim 17 further comprising a transmitter arranged to signal wireless units according to the synchronized clock for use in location determination of the wireless unit (fig.1, col.1, lines 12-35).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M Nguyen whose telephone number is 703.305.3906. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703.308.7745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Khai Nguyen

NICK CORSARO
PRIMARY EXAMINER

9/30/2004